

## NURSE KNOWLEDGE ABOUT HIGH QUALITY CARDIOPULMONARY RESUSCITATION (CPR)

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### ABSTRACT

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#### Key Words :

High quality CPR  
Knowledge  
Nurse

**Abstract :** High quality CPR is administering CPR with the standards already specified by the American Heart Association (AHA) 2015 which consists of 5 main components. Based on the data obtained, as many as 3 people nurses said forgot about the depth of CPR and 1 the same nurse said forgot about the frequency of CPR. Nursing knowledge of high quality CPR is essential, in order to improve the effectiveness of action implementation. This study aims to determine of nurse's knowledge about high quality CPR at IGD RSUD ULIN Banjarmasin. This research is a descriptive with cross-sectional method and sample of 34 people taken with total sampling technique. Instrument used in the form of questionnaires knowledge about the procedure of giving CPR and high quality CPR. Nursing knowledge level about high quality of CPR is less 1 (2,9%), enough 6 (17,6%), and good 27 (79,4%). The nurse's knowledge of high quality CPR is good, but it needs to be refreshed on CPR in order to improve the service for the better.

**Abstrak :** High quality CPR adalah pemberian CPR sesuai standar dari American Heart Association (AHA) 2015 yang terdiri dari 5 komponen utama. Berdasarkan data yang didapatkan, sebanyak 3 orang perawat mengatakan lupa tentang kedalaman CPR dan 1 perawat yang sama mengatakan lupa tentang frekuensi CPR. Pengetahuan perawat mengenai high quality CPR sangatlah diperlukan, agar dapat meningkatkan keefektifan pelaksanaan tindakan. Tujuan penelitian untuk mengetahui gambaran pengetahuan perawat tentang High Quality CPR di IGD RSUD ULIN Banjarmasin. Penelitian ini merupakan penelitian deskriptif dengan metode cross-sectional dan sampel sebanyak 34 orang diambil dengan teknik total sampling. Instrumen yang digunakan berupa kuesioner pengetahuan tentang tata cara pemberian CPR dan high quality CPR. Tingkat pengetahuan perawat tentang high quality CPR adalah kurang 1 (2,9%), cukup 6 (17,6%), dan baik 27 (79,4%). Pengetahuan perawat tentang high quality CPR adalah baik, akan tetapi perlu diadakan penyegaran ulang mengenai CPR agar dapat meningkatkan pelayanan menjadi lebih baik lagi.

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## INTRODUCTION

Cardiac arrest is one of the emergency situations that can occur suddenly. So it should get a quick and precise management. According to AHA 2010, cardiac arrest in the hospital are around 3-6 people/1000 events (Travers et al, 2010). In Indonesia, the incidence of cardiac arrest ranges from 10 out of 10,000 people under the age of 35 and each year reach 300,000-350,000 incidents (Turangan, 2017). From the Emergency Room (ER) report of RSUD ULIN Banjarmasin, in January-September 2017, there are 396 patients died, including 13 patients with cardiac arrest.

As part of the medical personnel, nurses need to be alert when faced with various conditions including cardiac arrest conditions. One way of cardiac arrest management is to provide Basic Life Support (BLS) in which there is the administration of Cardiopulmonary Resuscitation (CPR) (Travers et al, 2010). Adequate CPR can decrease the incidence of cardiac arrest and death in hospital, as long as it provided by trained persons and professional medical personnel (Plagisou, 2015).

The quality of CPR performed by health personnel has been found to be nearly 50% too long and too shallow as the compression less than 5 cm and more than 35% of frequencies less than 80 times / min (Fikriana, 2016). Inadequate CPR quality may affect survival rates (Sayee, 2012). This is what underlies that nurse must provide high quality CPR so that the blood flow from the heart to the brain and the whole body to the fullest. Providing high quality CPR will improve the effectiveness of action

implementation. The skills of high quality CPR include the provision of CPR with adequate depth and rate, providing a complete chest recoil, reducing interruptions in CPR and avoiding excessive ventilation (Hazinski et al, 2015).

The result of preliminary study to 10 nurses at ER and ICU of RSUD ULIN Banjarmasin, found that 3 nurses forgot about the depth of chest compression and 1 nurse said forgot about the frequency of CPR speed. Although chest compression and frequency of CPR speed is part of the indicator of high quality CPR according to AHA 2015.

Based on the description above, the researcher is interested to know about how the description of nurse knowledge about High Quality CPR at Emergency Installation (EI) of RSUD ULIN Banjarmasin.

## METHODS

This study is a quantitative study in the form of descriptive with cross-sectional method. The time and place of study is in December 2017-January 2018 at EI of RSUD ULIN Banjarmasin. The population in this study were all nurses who worked at the EI RSUD ULIN Banjarmasin of 34 people. Sampling technique in this study is using total sampling. The instrument used in this study were a knowledge questionnaire taken from previous studies by Tiara Lani and modified according to research needs and adjusted to the latest AHA 2015 guideline.

## RESULT AND DISCUSSION

### Respondent Characteristics

#### 1. Based on Gender

**Table 1.**  
**Characteristics of Respondents Based on Gender (n = 34)**

Gender	f	Percentage (%)
Male	16	47,1%
Female	18	52,9%

*Source: Primary data 2017-2018*

Nurses who work at the Emergency EI of RSUD ULIN Banjarmasin have more female than male. So far there is no definite study of the gender relationship to nurse knowledge in the administration of High Quality CPR, but male tend to

have a better ability to produce depth CPR action and have more tendency to produce depth in the range of 5-6 cm. This is because the power of male is stronger than women (Fikriana, 2016).

#### 2. Based on Age

**Table 2.**  
**Characteristics of Respondents Based on Age (n = 34)**

Age	F	Percentage (%)
25-32 years	17	50%
33-40 years	13	38,2%
41-48 years	1	2,9%
49-56 years	3	8,8%

*Source: Primary data 2017-2018*

Most of the respondents were in the range of 20-40 years (early adulthood) (Dahlan, 2014). This is also in line with the theory of Potter & Perry in Hutapea 2012 which says that someone who is in the early adult age

category still does not experienced cognitive changes. A person who is in early adulthood is very capable for accepting or learning new things & as the younger, the ability to remember the better (Hutapea, 2012).

#### 3. Based on Education Level

**Table 3.**  
**Characteristics of Respondents Based on Recent Education (n = 34)**

Recent Education	f	Percentage (%)
Nursing Diploma	20	58,8%
Nursing degree	2	5,9%
Nurse	12	35,3%

*Source: Primary data 2017-2018*

According to Maliono, the higher the education, the easier someone to accept new information and as the sooner a person accepts new information, the faster of the individu to accept the knowledge (Lestari, 2015).

The statement from Maliono is contrary to the results of the result obtained in this study. In this study, the number of nurses whose education level is nursing diploma more than nurse. This may be because education about CPR

has been given in college, whether it is at the level of nursing academy or college.

This is supported by previous research of Irma Hadi Surya (2015) although the nurse education level is different but they are able to provide CPR action because the nurse also has attended emergency training.

So the knowledge they gain is not only through formal education but also obtained through training (Surya, 2015).

#### 4. Based on Certificate

**Table 4.**  
**Characteristics of Respondents Based on Certificates Owned (n = 34)**

<b>Certificates Owned</b>	<b>f</b>	<b>Percentage (%)</b>
BLS	1	2,9%
BTCLS	22	64,7%
BLS and BTCLS	8	23,5%
BTCLS and ACLS	2	5,9%
BLS, BTCLS and ACLS	1	2,9%

*Source: Primary data 2017-2018*

It is also similar to previous study that most respondents have attended basic training. Training is part of human resource development aimed to improve individual understanding and ability (Turangan, 2017).

BTCLS is the competencies that a nurse must have when facing someone in an emergency. Therefore, a nurse is required to have a certificate on the handling of emergency (Sutono, 2015).

#### 5. Based on Knowledge Level

**Table 5.**  
**Characteristics of Respondents by Knowledge Level (n = 34)**

<b>Knowledge Level</b>	<b>F</b>	<b>Percentage (%)</b>
Low	1	2,9%
Sufficient	6	17,6%
Good	27	79,4%

*Source: Primary data 2017-2018*

From the results of researcher study, most respondents already have good knowledge about high quality CPR. Nevertheless, there are still some respondents who have sufficient and low knowledge. This may be caused by various factors. It is possible that the person does not really understand with the question given and about the material (Notoadmodjo, 2010).

### **Nurse Knowledge about Procedure of CPR and High Quality CPR**

The nurse knowledge of the CPR administration procedures is already correct, from its definitions, algorithms, airway opening techniques, compression rate and the taken steps when finding patients in emergency situations.

Then the nurse knowledge about high quality CPR also good for overall. Although there is one question that most respondents answered incorrectly, that is on question about high quality component of CPR as much as 20 people (58,8%). In this question most respondents chose the depth and hand position when giving CPR. It supposed to be, respondents answered the depth, rhythm and recoil of the chest as a concern component in providing high quality CPR.

When someone is exposed to something or stimulated from the outside (through education, mass media, training) followed by stimulus process, after the stimulus process will form an open reaction (action). Before reaching the action, in the stimulus process there is a closed reaction. In this closed reaction will form knowledge and also attitudes which ultimately also affect the open attitude (action). Based on that explanation it can be conclude that there is a relationship between knowledge, attitude and action (Notoadmodjo, 2010).

Therefore, the mistake of respondents in answering questions about things must be considered in high quality CPR,

it is concerned will have an impact on the action when giving CPR.

## **CONCLUSION**

Based on the study results that has been done on nurses at the EI ULIN Banjarmasin, the following conclusions can be drawn:

- a. Characteristics of respondents by gender mostly are women, by 18 people (52.9%).
- b. Based on the age of most respondents are in the range of 25-40 years by 30 people (88.2%).
- c. The most recent education is nursing diploma by 20 people (58.8%).
- d. The most widely owned certificate is BTCLS by 22 people (64.7%).
- e. The nurse knowledge level of high quality CPR, as many as 27 people (79,4%) is good, 6 people (17,6%) is sufficient and 1 person (2.9%) is low.
- f. The nurse knowledge of the procedures for CPR administration includes:
  1. The definition of CPR is good.
  2. The latest CPR algorithm according to AHA 2015 is good.
  3. The technique of opening the airway is sufficient.
  4. The Ratio of CPR is good.
  5. First-aid measures in emergency patients are good.
- g. Nurse knowledge about high quality CPR includes:
  1. The depth of CPR is sufficient.
  2. Things to be aware when providing high quality CPR is sufficient.
  3. CPR frequency is good.
  4. Duration to stop CPR is good.
  5. High quality standard CPR is sufficient.

## **SUGGESTION**

For further study, a direct observation of CPR actions performed by nurses and the good and correct use of AED needed. For nurses, nurse

knowledge of CPR should be continuously developed and updated in accordance with the latest AHA guidelines, such as airway opening techniques and things to be aware of when giving CPR (depth and hand position when delivering CPR).

For educational institutions can be used as reference in order to be a reference about CPR in the world of nursing and for hospitals is knowledge rejuvenation about CPR in accordance with the latest AHA guidance (2015) needed and should be done every 2-3 years and the selection of certified instructors from the AHA.

## BIBLIOGRAPHY

1. Dahlan, Suharty, Lucky Kumaat, Franly Onibala. (2014). Pengaruh Pendidikan Kesehatan tentang Bantuan Hidup Dasar (BHD) terhadap Tingkat Pengetahuan Tenaga Kesehatan di Puskesmas Wori Kecamatan Wori Kabupaten Minahasa Utara. *Ejournal keperawatan (e-Kp)*; 2(1):1-8.
2. Fikriana, R, Al-Afik. (2016). Faktor-Faktor yang Berhubungan dengan Tercapainya *High Quality* CPR pada Peserta *Basic Life Support Training*, P- ISSN: 2086-3071, E-ISSN: 2443-0900; 7(2):118-125.
3. Hazinski, M, Shuster M, Donnino M, Travers A, Samson R, Schexnayder S, et al. (2015). Highlights of The 2015 American Heart Association-Guidelines Update for CPR and ECG. *American Heart Association*;1-36.
4. Hutapea, Elda Lunera. (2012) *Gambaran Tingkat Pengetahuan Polisi Lalu Lintas tentang Bantuan Hidup Dasar (BHD) di Kota Depok*. Universitas Indonesia: Jakarta.
5. Lestari, Titik. (2015). *Kumpulan Teori untuk Kajian Pustaka Penelitian Kesehatan*. Nuha Medika: Yogyakarta.
6. Notoadmodjo. (2010). *Ilmu Perilaku Kesehatan*. Rineka Cipta: Jakarta.
7. Plagisou, L, Tsironi M, Zyga S, Moisoglou I, Maniadakis N, Prezerakos, P. (2015). Assessment of Nursing Staff's Theoretical Knowledge of Cardiovascular Resuscitation in An NHS Public Hospital. *Hellenic Journal of Cardiology*; 56(2):149-153.
8. Sayee, N, McCluskey D. (2012). Factors Influencing Performance of Cardiopulmonary Resuscitation (CPR) by Foundation Year 1 Hospital Doctors. *Ulster Medical Journal*; 81(1):14-18.
9. Surya, Irma Hadi, Sri Syatriani, Suarni. (2015). *Gambaran Kemampuan Perawat dalam Pelaksanaan Resusitasi Jantung Paru di Ruang ICU Rumah Sakit Tingkat II Pelamonia Makassar*. Sekolah Tinggi Ilmu Kesehatan Makassar: Makassar.
10. Sutono, Ratnawati R dan Suharsono T. (2015). Perbedaan Nilai Kompresi Dada dan Ventilasi pada Pelatihan Resusitasi Jantung Paru Mahasiswa S1 Keperawatan dengan Umpan Balik Instruktur, Audiovisual dan Kombinasi di Yogyakarta. *Jurnal Ilmu Keperawatan*; 3(2):183-197.
11. Travers, AH, Rea TD, Bobrow BJ, Edelson DP, Berg A, Sayre MR, et al. (2010). Part 4: CPR overview: 2010 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care. *Circulation*. ISSN: 00097322. 112.(18).
12. Turangan, Malara R. (2017). Faktor-Faktor yang Berhubungan dengan Pengetahuan Perawat dalam Menghadapi Cardiac Arrest di RSUP Prof. R. D. Kandou Manado. *E-Journal Keperawatan (E-Kp)*; 5(1):1-8.